

(916) 654-4715

December 24, 1992

Members, Alternates, and Observers,  
California Traffic Control Devices Committee

The California Traffic Control Devices Committee will meet in San Diego on Wednesday, February 17, 1993. The meeting will begin at 9:00 a. m. in the Caltrans District Auditorium at 2829 Juan Street, adjacent to Old Town.

Some on- street parking is available in the vicinity of the District Office. There is additional parking at a State facility on Juan Street, one block north of Taylor Street, as shown on the enclosed location map.

Enclosed is the agenda for the meeting. As always, all interested persons are encouraged to attend.

Sincerely,

Jack M. Kletzman  
Executive Secretary, CTCDC

Enclosure

**AGENDA**  
**CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE**

February 17, 1993

San Diego

**ORGANIZATION**

Introductions

Adoption of Minutes

**AGENDA ITEMS**

89-9	EMERGENCY VEHICLE APPROACHING SIGN	Continued (Folkers)
90-9	YEAR ROUND SCHOOL SIGN	Continued (Taft)
91-7	LIGHT RAIL ALTERNATE FLASHING RED SIGNAL	Continued (Taft)
92-13	POLICE OR SHERIFF'S FACILITY SIGN	Continued (Lowden)
92-17	NATURAL GAS SIGN	Introduction (Taft)
92-18	GOLF CART SYMBOL SIGN	Introduction (Folkers)
93-1	TRAFFIC ISLANDS, EFFECT OF MODIFICATION FOR DISABLED ON THE VISUALLY IMPAIRED	Introduction (Tanda)
93-2	L. E. D. STUDY BY CALTRANS	Introduction (Lowden)
93-3	BIKE LANE DELINEATION REVISION	Introduction (Lowden)
93-4	CONVEX MIRRORS	Introduction (Carter)
93-5	BIKE LANE DELINEATION ACROSS FREEWAY RAMPS	Introduction (Lowden)
93-6	BIKE LANE QUEING AREA DELINEATION	Introduction (Lowden)
93-7	CHANNELIZER PLASTIC DRUM	Introduction (Lowden)

**TABLED AGENDA ITEMS**

90-7	BICYCLE SIGNAL HEADS	(Tanda)
91-9	CYCLIST LOOP ACTIVATION MARKING	(Lowden)
92-4	TRAFFIC SIGNAL DIMMING	(Tanda)
92-10	BIKEWAY MARKING	(Foxen)

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**89-9 EMERGENCY VEHICLE APPROACHING SIGN**

Dick Folkers said that, although there was general agreement on the project, insurance to cover the City of Sacramento has not yet been provided. Chairman Howard pointed out that the item has been carried on the agenda since July of 1989 and, in view of the fact that this was a continuing problem, asked if this item should be dropped. Folkers recommended a continuance because the project was at a point where it would either start or fail before the next meeting. Folkers agreed to notify the City that a continued lack of progress could lead to deletion of the item.

ACTION: Item continued.

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**90-9 YEAR ROUND SCHOOL SIGNING**

Mr. Joe Holstein , the City Engineer, said that in Ceres, half the schools operate during the entire year and half do not. He wants to inform the motorist of this distinction. He is concerned that there are posted areas which do not have reduced speed zones to alert drivers. Because the speed limit is 25 mph, he cannot use WHEN CHILDREN ARE PRESENT signs at these locations and seeks to warn the motorist to expect children. Holstein believes a YEAR ROUND SCHOOL sign would be valid but was unable to obtain any corroborating statistics from the city police department.

Chairman Howard recalled that the Committee's reluctance to approve such a sign was based on the fact that WHEN CHILDREN ARE PRESENT covers school areas for a multiplicity of times and activities and is not necessary from an enforcement perspective. Holstein reiterated that WHEN CHILDREN ARE PRESENT is used in conjunction with a reduced speed limit. The problem is that these school areas have residential or collector streets zoned for 25 mph and there is no speed reduction specifically for the school. Perry Lowden asked if there is any evidence of a problem or if there were any substantiation that a YEAR ROUND SCHOOL sign would have an effect on motorist's behavior.

Russ Taft said that the City of Fresno has such a sign and might be a source of information. Holstein suggested trying the sign, but Perry Lowden was concerned with liability resulting from non uniform sign installation. Holstein said that only SCHOOL signs have been erected and that does not give any indication of heavy pedestrian activity associated with year round schools. Activity in non- year round schools is significantly reduced during summer months. Taft sees benefit in the proposed signs for high speed rural areas, to alert motorists before they are able to see children. Bruce Carter sees a larger generalized problem in the disregard for traffic control devices. He is not sure another sign will change driver's behavior.

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**90-9 YEAR ROUND SCHOOL SIGNING (continued)**

Mr. Michael Trujillo, Principal of Natividad School in Salinas, believes that year round schools are proliferating. He has observed motorists exceeding the speed limit, oblivious to children crossing and ignoring crossing guards at his school. Trujillo has seen YEAR ROUND SCHOOL signs at Incline Village and Fresno, and heard that a Florida school district is using such signs. Trujillo appealed to the Committee for the safety of the children. He also said that the Traffic Commissioner for the City of Salinas had rejected a previous request for such a sign because additional signs were not permitted. A newspaper article in 1990 named Natividad School as an area where people should be concerned with traffic. Police occasionally go after motorists who speed or who ignore crossing guards, but not with sufficient frequency. Trujillo said they had installed a signal at one location, and had crossing guards at another location, and this fails to decrease the speed of the majority of motorists.

Chairman Howard said he was familiar with enforcement issues and it was not possible for law enforcement to be at every school every day. Roger Burger established that the school was on a commuter route, that motorists saw the children, and are familiar with the area. Since drivers know a school zone exists, Burger questioned the usefulness of another sign telling motorists what they already know.

Gary Foxen said he had no problem with contacting the City of Fresno to see how effective this sign has been, but he thinks we are expecting far too much from traffic signs. The problems that have been described agree with Foxen's own observations of too much speed, disregard for crossing guards, and running traffic signals. These problems are much broader than a sign could ever hope to address. Foxen suggested a combination educational and enforcement program might help. He doubted that adding the requested sign would do any good at all, and if it gave anyone the feeling that they had an additional margin of safety, a worse problem would be created.

Chairman Howard said it would be possible to put a lot of signs out there, but those who disregard signs will continue to do so. It is doubtful that additional signs will protect children or save a life. Bruce Carter agreed, saying that his experience has been that, like crosswalks, signs give a false sense of security.

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**90-9 YEAR ROUND SCHOOL SIGNING (continued)**

Wayne Tanda characterized the perception being that an additional sign would convince motorists to be at least as careful for two months of the year, as they presumably are during the other ten months under existing signing. His experience with San Jose schools indicates the additional signs would not provide any measurable increase in safety. Tanda said that if motorists would be more careful because of a supplemental sign, San Jose would have tried this long ago. He concluded that in many areas, schools are utilized for purposes beyond the school semester, and to differentiate between year round schools and non-year round schools would detract from the fact that drivers must always be alert and careful around any school at any time.

Roger Burger is concerned that if one school is year round and has such a sign and there is a death or injury in June or July at another school, where there is no such sign, there would be major litigation but the sign would have had no effect on drivers behavior. Gary Foxen said that safety around schools is not so much a matter of signs as it is a matter of attitude of drivers and children.

Mr. Trujillo said that for two weeks there was heavy publicity announcing the opening of year round schools and there was no change in behavior of the driver in the months of July and August. Perry Lowden concluded that this is why he has difficulty believing that an additional plate would have any influence on drivers behavior.

Tanda pointed out that the Committee supports Mr. Trujillo efforts with respect to traffic safety, and did not want him to leave thinking that the Committee was ignoring any possibility to make the situation more safe. The consensus of the Committee was that a supplemental sign was merely a placebo which would add to the clutter and do nothing to alleviate the problem.

MOTION: By Russ Taft, second by Dick Folkers to seek statistical data from the City of Fresno, Incline Village, and Orange County, Florida. Motion carried 8-0.

ACTION: Item continued.

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**91-7 LIGHT RAIL ALTERNATE FLASHING RED SIGNAL**

Russ Taft said the Light Rail Safety Subcommittee held a meeting on August 28, 1992. The assumption that left turn vehicles were struck by overtaking light rail was supported by limited data from the PUC. The data indicated that 50% to 60% of the accidents at controlled intersections involved illegal left turns.

Originally Gordon Chester of San Francisco suggested using standard PUC #4 alternating crossing lights as a warning. That has not been supported by the subcommittee. In order to identify problems, the PUC developed an accident report form. The subcommittee was reviewing this form to insure data accessibility and identify strengths and weaknesses. The subcommittee found the new form is a vast improvement over the old form, new data is consistent with prior data, and a diagram segment needs to be added to the new form.

The subcommittee discussed the use of a convex mirror to ease this problem. Such mirrors are common in Asia and Europe. San Francisco uses these mirrors for blind intersections. Some of these mirrors are polished stainless steel and some are glass. The advantage of stainless steel is that it withstands graffiti and breakage.

The goal of the subcommittee is to provide a recommendation for inclusion in the Manual of Traffic Control Devices for Light Rail to abate left turn accidents. The subcommittee will track various jurisdictions to determine the most effective devices.

Bruce Carter asked if light reflection posed a problem with convex mirrors. Taft said that it is not as big of a problem as one might think because the convex mirror makes the sun a very small point of light. Some countries use a visor over the mirror and have a sign which reads LEFT TURN USE MIRROR. Taft said the mirrors were used where there was no protected left turn and for blind intersections. Dick Folkers mentioned that Rancho Mirage was using this type mirror for driveways with restricted visibility entering major thoroughfares.

ACTION: Item continued.



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**92-13 POLICE OR SHERIFF'S FACILITY SIGN**

Dick Folkers said that the proposed sign design was still being circulated for review by LOCC, CSAC, Calchiefs, and Calsheriffs.

ACTION: Item continued.

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**92-17 NATURAL GAS SIGN**

Mr. Leo Thomason represents the California Natural Gas Vehicle Coalition, whose purpose is to promote both the commercialization of natural gas vehicles and natural gas as a vehicle fuel. Members of the coalition include Pacific Gas & Electric Co., Southern California Gas Co., and San Diego Gas & Electric. The coalition is requesting Committee approval for a sign indicating the availability of natural gas for vehicles.

Thomason said there were more than 1500 natural gas vehicles currently operating in California and 46 public access stations. Sixteen of the stations are within a  $\frac{1}{2}$  mile of a highway. Ford, General Motors, and Chrysler are currently manufacturing dedicated natural gas vehicles. Most of the natural gas vehicles now operating are bi-fuel, meaning that they can operate on natural gas or gasoline. The bulk of vehicles are owned by businesses or corporations, rather than individuals. Most of the existing fueling stations are owned by utility companies and are located at a utilities operation center. In most cases they allow the public to come into their service center and fuel the vehicle.

Gary Foxen asked if, since most cars were business owned, the drivers were aware of fueling locations? Thomason said the coalition and the energy commission have provided operators with maps showing fueling locations, but they were trying to raise the level of awareness of station locations. Russ Taft said that the commission map is helpful but it is not as useful as a road side sign.

Bruce Carter asked if there were any incentives besides clean air to promote the use of this fuel? Thomason said there were incentives offered by the utilities to offset the higher cost of NGVs. It cost about \$4,000 more per vehicle for original equipment or to retrofit an existing vehicle. There is no direct incentive for the cost of fuel. Natural gas cost about 64¢ to 70¢ per an equivalent gallon. The mileage depends on the conversion equipment placed in the vehicle, but one would expect slightly less than the mileage for gasoline because the engine was designed to run on liquid fuel.

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**92-17 NATURAL GAS SIGN** (continued)

Richard Folkers said his community was planning to use natural gas fueled busses and to open a natural gas fueling station. He believes this will be the trend throughout the state. Chairman Howard said the Federal Government was encouraging an increase of the numbers of alternate fuel vehicles.

Thomason said some of the stations are open 24 hrs and others require a call for access. The intent is that an initial call establishes a relationship leading to subsequent access. For example Southern California Gas Co. will give users a credit card and make arrangement for the motorist to continually use their facility. Lowden believes that under these circumstances the signs are more for program recognition than for motorist information. Thomason said they were trying to increase the awareness that this type fuel is available and make it easier for drivers to locate the station. The Committee became concerned about the number of symbol signs used to designate the various fuels. Lowden explained that the gas pump symbol designates a gas station. The proposed natural gas symbol shows a gas pump and to be consistent, this should indicate the availability of gasoline regardless of any other symbol.

Lowden said the original gas, food, and lodging sign package was intended for rural areas but later crept into urban areas. Howard mentioned that during the 1970's with the gas shortage, diesel became very popular and signs went up all over. Wayne Tanda asked how permanent were the stations? Thomason said that the growth patterns of oil companies adding natural gas service and an increasing number of stations involved indicates that natural gas will be here for the long term. Thomason said that the energy commission is supportive of this program and has four demonstration programs that it is funding for natural gas vehicles.

MOTION: By Dick Folkers, second by Russ Taft to continue this item to facilitate a meeting between Lowden and Thomason. Clarification of the motion by Tanda ; will the discussion coordinate all fuel signs? Lowden agreed. Motion carried 8-0.

ACTION: Item continued.

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**92-18 GOLF CART SYMBOL SIGN**

Dick Folkers informed the Committee that he had received a letter from the FHWA dated July 14, 1992 recommending that , until a symbol sign is approved for experimentation, or adopted as a standard, a word message sign be used to mark golf cart routes and crossings. They further recommended that golf cart lanes be identified in a similar manner to bicycle facilities. The FHWA is considering allowing the use of a strong green color background for golf cart signs on a trial basis. Folkers said Palm Desert will probably use the word message signs.

Russ Taft observed that the green sign being considered by the FHWA is not consistent with other signing, which is yellow and black. The consensus of the Committee was opposed to using a green color.

MOTION: By Dick Folkers, second by Roger Burger to continue this item . Motion carried 8-0.

ACTION: Item continued.

November 30, 1999

To: Jack Kletzman, Executive  
Secretary, CTCDC

From: Robert L. Donner, Chief  
Office of Electrical Systems

Caltrans is proposing an experimental program for LED ( light emitting diode ) red traffic signal faces. The experiment involves conversion of all of red indications in the Caltrans District 6 ( Fresno ) area . The program monitors power cost savings, maintenance history, longevity , and appearance of signal faces. The experience will extend over a three year period culminating, in a final report and recommendations. The advantages of LED signal faces are that they consume one third the power of incandescent lamps and have a life fifteen times longer.